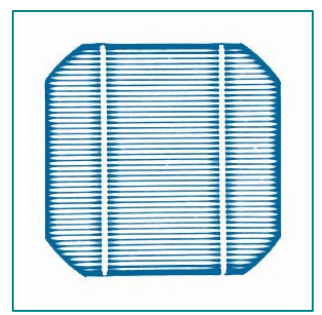


**We Adapt
So You Don't Have To!**

ZCON™
Electrochemical Impedance Analyzer



Feature

- For versatile AC impedance experiment using external electronic load or potentiostat/galvanostat..
- 2 signal input channel(current and voltage)/1 signal output for sinewave
- A flexible frequency generator/analyzer
- Generate various waveforms (eg. Sinusoidal etc)
- Designed for spectrum analysis in the electrochemical field
- Simulation and fitting with ZMAN™
- High current application with external load and/or potentiostat/galvanostat
- Software controlled function
- Graphic-based user-interface
- Dual real time graph (Bode, Nyquist, etc) during measurement

ZCON™ impedance analyzer is spin off model from Z# multichannel impedance monitor. This model is for single channel application only.

ZCON™ provides all tools for the application of fuel cell stack, battery pack , and general electrochemical study requiring EIS measurement using external electronic load or potentiostat/galvanostat.

By employing electronic load, ZCON™ can be used to determine the efficiency of fuel cell and anodic/cathodic process mechanisms by calculating impedance with the measurements of I and E at given frequency.

The complete system is software-controlled and all functions such as ranging, calibration, and measurements can be automated.

Supporting external load/Potentiostat

- TDI dynaload RBL488 series
- WonATech WEL Load
- ZSTAT potentiostat/galvanostat
- 3rd parties potentiostat/galvanostat

Other model might be needed to set some parameters by manually.

Please contact with your regional distributor about other 3rd parties products' availability with ZCON™

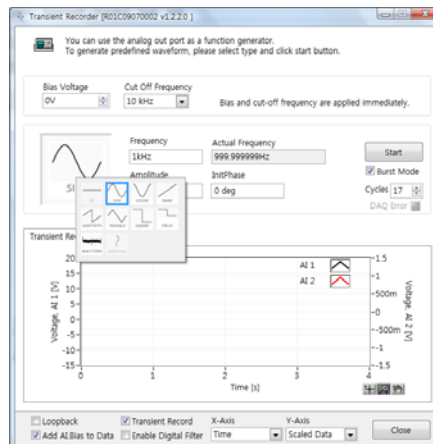
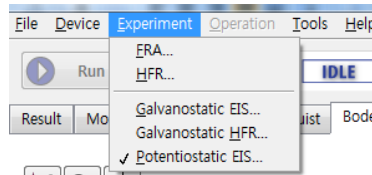
Software (Z100 Navigator)



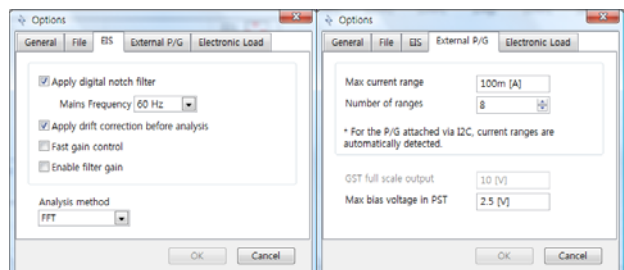
Z100 navigator is Zcon™ control software. This can be used with external potentiostat/galvanostat or electronic load by setting for impedance measurement or waveform generator.

List of Impedance Techniques with Zcon

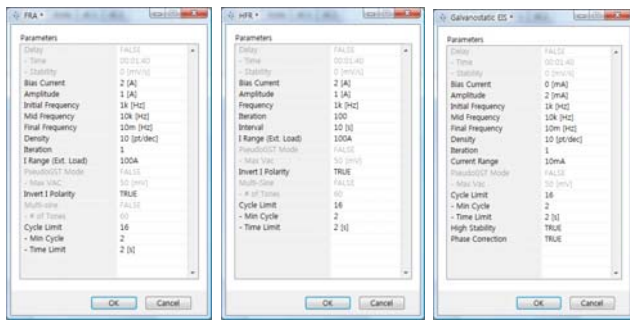
- Frequency Response Analyzer (FRA)
- High Frequency Resistometry (HFR)
- Galvanostatic Electrochemical Impedance Spectroscopy (GEIS)
- Galvanostatic HFR (GHFR)
- Potentiostatic EIS (PEIS)



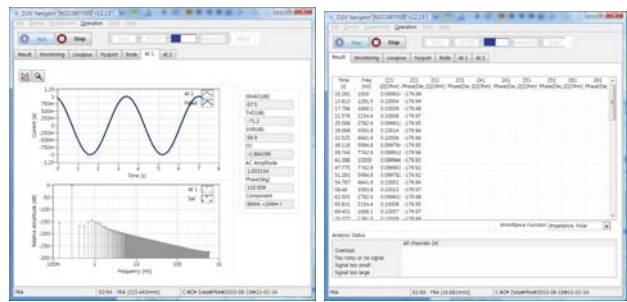
Transient recorder (Waveform generator)
DC/Sine/Cosine/Ramp/Sawtooth/Square/Triangular/Pulse/
Multi-tone/ Arbitrary



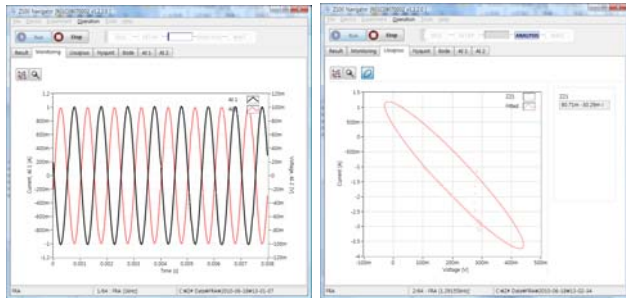
Environment setting menu



Parameter setting for each techniques

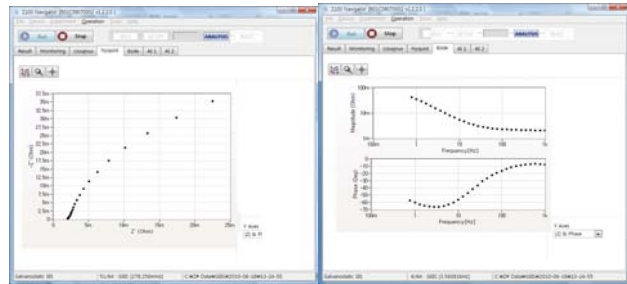


AC Signal Input (power spectrum) Result



Monitoring

Lassajous plot



Real time Nyquist plot

Real time Bode Plot

- ZMAN™ will be supplied for analysis of Zcon data at free of charge. Please refer to ZMAN introduction.

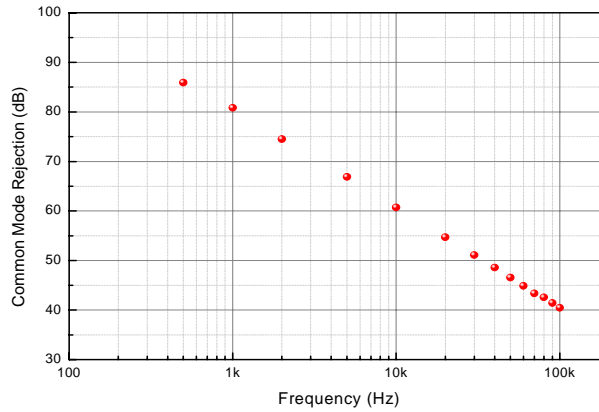
System Configuration

Hardware (controller), Software, USB cable, Power adapter

Specification

Analog Out	as Signal Generator	
# of Channels	1	
Configuration	Single-ended	
Maximum Output	-11.0 to +11.0 V (DC + AC)	
Voltage Offset	< 0.5 mV, software corrected zero	
DC Bias	Range	Resolution
	0.0 to 5.0 V	0.076 mV
	0.0 to +10.0 V	0.153 mV
	-5.0 to +5.0 V	0.153 mV
	-10 to +10.0 V	0.305 mV
	-2.5 to +2.5 V	0.076 mV
	-2.5 to +7.5 V	0.153 mV
AC Waveform		
Predefined Type	DC, Sine, Cosine, Ramp, Sawtooth, Triangle, Square, Pulse, Multi-tone	
Frequency Range	1 uHz to 100kHz Resolution: 5000 steps/decade	
Frequency Accuracy	Typ. 75 ppm, Max ±200 ppm	
Frequency Stability	< 2 ppm @ 1 kHz	
	< 20 ppm @ 10 kHz	
	< 200 ppm @ 100 kHz	
Amplitude	< 2000 ppm(0.2%) @ 1 MHz	
Post-Gain/Attenuation	1 mVpp to 5 Vpp -44 dB to +40 dB with 6 dB step, automatic gain selection	

Reconstruction Filter	10 to 150 kHz 8th order low pass filter with 10kHz step or By-Pass
Gain Error	< 0.5 %
Analog In	
as Frequency Analyzer	
# of Channels	1 for current input and 1 for voltage input
Configuration	Differential
Max. Common mode voltage	±100 V
Voltage Offset	< 0.5 mV, software corrected zero
Bandwidth	550 kHz
Input Impedance	110 kOhm
Pre-Attenuation	-20dB (×0.1)
Post-Gain/Attenuation	-44 dB to +40 dB (×100) with 6 dB step or ×200, ×400, ×800, ×1600
Anti-aliasing Filter	10 to 150 kHz 8th order low pass filter with 10 kHz step or By-Pass
CMRR	> 80 dB @ 1 kHz, > 60 dB @ 10 kHz, > 40 dB @ 100 kHz (refer to the below graph)



Expansion Ports	
I2C In & Out	Reserved for future
General	
Interface	USB 2.0 high speed
Power	External 50W AC-DC Adapters, +5/+15/-15VDC with AC Input of 100 to 240V, 2A, 50/60 Hz
Operation Condition	0 to 50 °C, 0 to 90% humidity (non-condensing)
Warranty	1 year parts and labor on defects in materials and workmanship

Related products with Optional accessories

➤ Fuel cell test system



➤ Fuel cell hardware fixture



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